

**AMENDMENTS**

**In the Claims**

1. (previously presented) In a computer, a method for adding additional information into a datafield of an existing software record associated with a software table, the method comprising:
  - 5 forming a first user-defined data field structure, or first "UDF", the first UDF comprising:
    - a record identifier datafield,
    - 10 a UDF identifier datafield , and
    - a first datafield;
  - 15 storing a record identifier in the record identifier datafield;
  - storing a UDF identifier in the UDF identifier datafield; and
  - storing an additional information in the first datafield, whereby the first datafield is associated with the record and the additional information stored in the first datafield is associated with the record and without modification of the table.
- 20 15 2. (previously presented) The method of claim 1, wherein the method further comprises:
  - forming a metadata, the metadata comprising a classification of data type, the classification of data type distinguishing the data type of the additional information stored in the first datafield; and
  - associating the metadata with the first UDF.
3. (previously presented) The method of claim 1, wherein the method further comprises:
  - forming a metadata, the metadata comprising a name, the name associated with the first UDF and the name for use in software operations accessing the first UDF; and

associate the metadata with the first UDF.

4. (previously presented) The method of claim 1, wherein the method further comprises:

forming a metadata, the metadata comprising a title, the title associated with the first

5 UDF and a name for use in a visual display of the additional information of the first UDF; and  
associating the metadata with the first UDF.

5. (currently amended) The method of claim 1, wherein the method further comprises:

forming a class plurality of UDF's and wherein the first datafield comprises a class

10 identifier of the class plurality of UDF's, and each UDF of the class plurality includes: the class  
identifier; a unique identifier of the UDF of the class plurality of UDF's; and  
a datafield, whereby each datafield of the class plurality of UDF's is associated with the  
first UDF and therefrom associated with the record, and information is [[may be]] stored in the  
plurality of datafields of the class plurality of UDF's and associated with the first UDF, and  
15 therefrom the information of the plurality of datafields of the class plurality of UDF's is [[may  
be]] associated with the record and without modification of the table.

6. (currently amended) The method of claim 1, wherein the method further comprises:

forming a plurality of UDF's;

20 storing an identifier of the first UDF in the record identifier datafield of each of the  
plurality of UDF's;

storing a unique UDF identifier in the record identifier datafield of each of the plurality  
of UDF's; and

storing information in each of the first datafields of each of the plurality of UDF's, whereby the plurality of first datafields of the plurality of UDF's are associated with the first UDF and information is stored in the plurality of datafields and associated with the first UDF, and therefrom the information of the plurality of datafields is [[may be]] associated with the 5 record and without modification of the table.

7. (previously presented) The method of claim 1, wherein the method further comprises storing a pointer in the record identifier datafield for use as the record identifier.

10 8. (currently amended) The method of claim 1, wherein the method further comprises forming a plurality of UDF's, each UDF associated with a same record stored in the table, whereby the plurality of first datafields of the plurality of UDF's are associated with the same record and information is stored in the plurality of datafields and the information of the plurality of datafields is [[may be]] associated with the same record and without modification of the table.

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9. (currently amended) The method of claim 1, wherein the method further comprises forming a data structure having a record, a List and a list user-defined field, or "List UDF", the List UDF relatable to the record, and the List UDF comprising: an identifier of the List UDF; an identifier of the List; and a data address of the List, whereby an information stored at the data address of 20 the List is associated with the List UDF and the information is [[may be]] stored or modified at the data address of the List, and the information is associated with the record and without modification of the table.

10. (cancelled) A computer system comprising:

- a controller;
- a memory, the memory communicatively coupled with the controller and the memory storing a software database and a software database manager;
- 5 the software database having data organized into a table of records;
- a user-defined field stored in the memory for associating a datum with a record of the table, the user-defined field having a UDF identifier and a record identifier;
- a metadata stored in the memory and associated with the user-defined field and the metadata specifying the data type of the datum; and
- 10 the database manager software program for directing the controller to merge the user-defined field with the record to associate the datum of the user-defined field with the record of the table.

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## **Applicants Response to Examiner's Comments**

### ***Continued Examination under 37 CFR 1.114***

Examiner withdraws the finality of the previous Office Action and has entered the Applicant's Response of October 19, 2007.

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### ***Affidavit under 37 CFR 1.131***

Examiner has determined that the affidavit filed on October 19, 2007 by Applicant is effective to overcome the Millet et al. (US Patent Application Publication No. 20030154197) reference. Examiner holds that the Miller et al. reference is not prior art and that all references considered as prior art must be prior to July 24, 2001. Examiner states that July 24, 2001 is 10 considered the effective date of the claimed invention.

### ***Claim Rejections – 35 USC § 112***

Examiner rejects Claims 5, 6, 8 and 9 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

15 Examiner states regarding Claims 5, 6, 8 and 9, language "may be" (line 9 and line 12 of claim 5; line 13 of claim 6; line 7 of Claim 8; line 7 of Claim 9) raises question whether the claim will perform the acts. Examiner suggests that Applicant change "may be" to "is" to overcome this rejection.

20 Applicant has amended Claims 5, 6, 8 and 9 by deleting the phrasing "may be" and replacing the deleted wording with the verb "is".

Applicant respectfully submits that the Claims as currently amended fully resolve Examiner's rejections under 35 U.S.C. 112.

Applicant furthermore respectfully submits that Claims 5, 6, 8 and 9 are allowable.

***Claim Rejections – 35 USC § 102***

Examiner rejects Claims 1-9 (effective date 7/24/2001) under 35 U.S.C. 102(e) as being anticipated by Fish (US Publication No 2003/0220891, effective filing date 12/22/2000).

Examiner holds as to Claim 1 that Fish teaches:

5        "In a computer, a method for adding additional information into a data field of an existing software record associated with a software table" (referencing Fish, [0010]-[0011] and [0100]-[0102]), the method comprising:

          "forming a first user-defined data field structure, or first "UDF"" (referencing Fish, [0015] and [0101]-[0102] for adding user-defined fields to matter record wherein each row in

10      table (referencing Fig.13 b) defining an identifier and a value of a user-defined field associated with a matter number is "interpreted as user-defined data field structure), the first UDF comprising:

          " a record identifier datafield" (referencing Fish, [0097], [0102] and Fig. 13a-b wherein field 1380 storing matter number is interpreted as a record identifier datafield),

15      "a UDF identifier datafield" (referencing Fish, [0102] and Fig. 13b wherein field 1381 storing identifier of a user-defined field is interpreted as a UDF identifier datafield), and

          " a first datafield" (referencing Fish, [0102] and Fig. 13b wherein field 1382 storing value corresponding to the user-defined field is interpreted as a first datafield);

          "storing a record identifier in the record identifier datafield" (referencing Fish, [0097]

20      [0102] and Fig. 13b wherein matter number is interpreted as a record identifier);

          "storing a UDF identifier in the UDF identifier datafield" (referencing Fish, [0100]-[0104] and Fig. 13b); and

"storing an additional information in the first datafield, whereby the first data field is associated with the record and the additional information stored in the first data field is associated with the record and without modification of the table" (referencing Fish, [0096]-[0102] and Fig. 13a-b wherein corresponding value is interpreted as additional information stored in field 1382 (first datafield) which is associated with a matter record referenced by matter number; also see [0076] and [0079]).

Regarding Claim 1 and Claims 2-9 depending therefrom, Applicant responds that the Method of the Present Invention provides a scalable User Defined Field ("UDF") that enables a user defined data type, in contrast with Fish's limitation and prior art limitations that provide a user-defined fields (as per Fig. 13B of Fish) within data type restrictions. In certain embodiments, the UDF of the Method of the Present Invention may be a replacement for a database column, which consists not only of a set of values, but also defines the data type. In the prior art, a data type imposes constraints on the values that can be represented in the assigned type, the rendering of the data to the user, the storage of the data in the database, the sorting/searching characteristics, and additional attributes, such as "single-valued" or "multi-valued". The Method of the Present Invention exceeds one or more of these prior art limitations in various alternate embodiments. (See [0013], [0031], [0033], [0034], [0066], [0081], [0083], [0084] and Figures 3B and 6 of the Application.)

Applicant therefore submits that the UDF as taught by the Method of the Present Invention is patentably distinct from prior art user-defined data structures, to include the user-defined data structures of Fish.

In addition to the database characteristics, a user-defined field of the Method of the Present Invention may specify behavior dependent on relationships with other UDF's of the

Method of the Present Invention. An instant UDF according to the Present Invention may be a “child”, or a hierarchical descendant of another UDF whose value determines the permitted values for the instant UDF. This aspect of the Method of the Present Invention thereby goes beyond the database and rendering characteristics of a “data type” as practiced and taught by the prior art and Fish in particular.

Furthermore, Fish defines only a “multi-valued” user-defined field. While multi-valued user-defined field’s are of value, this is only one aspect of the UDF of the Method of the Present Invention. In clear contrast, the UDF of the Method of the Present Invention permits single-valued UDF’s (i.e., only one value may be entered for each record in which the UDF resides) that may be applied when constraints are necessary for data integrity and workflow rules. Fish fails to teach an intent, motivation or capacity to apply such constraints.

Furthermore, Fish defines a single data type for all potential user-defined datfields. This limitation in conceptualization of Fish’s disclosure is specified in Fig. 13b therein. Where the value is a single field in a data store, a user-defined datafield of Fish cannot comprise all possible representations of data types that are necessary for a variety of user defined fields within a data base system. The severe prior art limitation of having only a single (text) data type is limiting to the capacity as per Fish of an information technology system to store and interrelate data.

In particular, the theoretical design described by Fish could have been derived from “typed records”, which have been used in COBOL programs for many years. In these prior art records, a “type” field identifies the semantics of the other fields in the record. This typed record concept is even supported in the COBOL language. The use of Master-detail records with COBOL record types almost exactly matches what Fish describes.

In contrast, the Method of the Present Invention is more deeply tied to the concept of data types and relational data. The patentable difference of certain aspects of the Method of the Present Invention with the prior art in general, and with Fish in particular, can be seen in the strict typing of the storage of UDF's in the database in accordance with the Method of the 5 Present Invention. For example, as disclosed in the Application, storing a DATE type field as a database DATE enables a computer to perform sorting, searching, validation, time zone conversion, data migration, internationalization, and arithmetic expression handling in the DBMS with little or no additional effort on the part of the user or additional programming in the application system.

10 The theoretical design disclosed by Fish would be very cumbersome scale to a large-scale system where thousands of users may be running application queries on a single database with millions of records. This is due to the fact that all user-defined fields as taught by Fish are represented as a single data type, without form, thus requiring specific conversions to apply semantic operations on the data, e.g., to find the next business day after a date value in thousands 15 of UDF records.

More specifically, Fish's use of a UDF title in the identification of the UDF in the store limits the invention in several ways, to include:

- a. employing a title that is quite large compared a numeric identifier and wasting storage;
- b. an identifying character string for records in databases is less efficiently indexed and 20 searched than an identifier using numerical values;
- c. Migration of one set of records to a data base system with another set of records may risk unwanted collisions, and use of numerical values for record identifiers for such

migration allows the application of collision resolution techniques that are much more difficult or impossible to apply to text or character string titles; and

d. remapping can be done more easily with numeric values for UDF identifiers when migrating one set of UDF's to a system with another set of UDF's.

5 Applicant therefore respectfully submits that Claim 1, and Claims 2-9 depending therefrom claim novel and non-obvious subject matter and are allowable.

Examiner rejects Claim 2 based on arguments given above for rejected Claim 1 and is similarly rejected including the following:

Examiner holds that Fish teaches:

10 "forming a metadata, the metadata comprising a classification of data type, the classification of data type distinguishing the data type of the additional information stored in the first datafield" (referencing Fish, [0103]); and

"associated the metadata with the first UDF" (referencing Fish, [0051]-[0053]).

15 Applicant replies that Claim 2 depends directly from Claim 1. Applicant respectfully submits that as Claim 1 is allowable as per Applicant's arguments above, that Claim 2 is therefore allowable.

Examiner rejects Claim 3 based on arguments given above for rejected Claim 1 and is similarly rejected including the following:

Examiner holds that Fish teaches:

20 "forming a metadata, the metadata comprising a name, the name associated with the first UDF and the name for use in software operations accessing the first UDF" (referencing Fish, [0052]-[0053] wherein identifier is interpreted as a name as recited; also see [0087]); and

"associated the metadata with the first UDF" (referencing Fish, [0102] and [0052]

wherein each user-defined field is associated with an identifier (metadata».

Applicant replies that Claim 3 depends directly from Claim 1. Applicant respectfully

submits that as Claim 1 is allowable as per Applicant's arguments above, that Claim 3 is

5 therefore allowable.

Examiner rejects Claim 4 based on arguments given above for rejected Claim 1 and is similarly rejected including the following:

Examiner holds that Fish teaches:

"forming a metadata, the metadata comprising a title, the title associated with the first

10 UDF and a name for use in a visual display of additional information of the first UDF"

(referencing Fish, Fig. 7); and

"associated the metadata with the first UDF" (referencing Fish, [0015] wherein field

description associated with each user-defined field can be interpreted as title as claimed).

Applicant replies that Claim 4 depends directly from Claim 1. Applicant respectfully

15 submits that as Claim 1 is allowable as per Applicant's arguments above, that Claim 4 is

therefore allowable.

Examiner rejects Claim 5 based on arguments given above for rejected claim 1 and is

similarly rejected including the following:

Examiner holds that Fish teaches:

20 "forming a class plurality of UDF's and wherein the first datafield comprises a class

identifier of the class plurality of UDF's, and each UDF of the class plurality includes: the class

identifier; a unique identifier of the UDF of the class plurality of UDF" (referencing Fish, [0017]

wherein a class plurality of UDF's includes milestones, office procedures, matter details, etc); and

"datafield, whereby each datafield of the class plurality of UDF's is associated with the first UDF and therefrom associated with the record, and information may be stored in the 5 plurality of data field of the class plurality of UDF, and associated'with the first UDF, and therefrom the information of the plurality of datafields of the class plurality of UDF's may be associated with the record and without modification of the table" (referencing Fish, [0085] for associating number of addresses (the class plurality of UDF's) with a given contact (first UDF».

Applicant replies that Claim 5 depends directly from Claim 1. Applicant respectfully 10 submits that as Claim 1 is allowable as per Applicant's arguments above, that Claim 5 is therefore allowable.

Examiner rejects Claim 6 based on arguments given above for rejected Claim 1 and is similarly rejected including the following:

Examiner holds that Fish teaches:

15 "forming a plurality of UDF's" (referencing Fish, [0097], [0107] and Fig. 13a-b); "storing an identifier of the first UDF in the record identifier datafield of each of the plurality of UDF's" (referencing Fish, Fig. 13b wherein matter number is interpreted as identifier of the first UDF);

20 "storing a unique UDF identifier in the record identifier datafield of each of the plurality of UDF's" (referencing Fish, Fig. 13b); "storing information in each of the first datafields of each of the plurality of UDF's, whereby the plurality of first datafields of the plurality of UDF's are associated with the first UDF and information is stored in the plurality of datafields and associated with the first UDF,

and therefrom the information of the plurality of datafields may be associated with the record and without modification of the table" (referencing Fish, Fig. 13 a-b for associating of values (information in the plurality of datafields) with a matter number (first UDF) which represent a matter record [0097]; also see [0085] and [0101] for associating number of addresses with a

5 given contact wherein each identifier/value pair represents an user-defined field).

Applicant replies that Claim 6 depends directly from Claim 1. Applicant respectfully submits that as Claim 1 is allowable as per Applicant's arguments above, that Claim 6 is therefore allowable.

Examiner rejects Claim 7 based on arguments given above for rejected claim 1 and is  
10 similarly rejected including the following:

Examiner holds that Fish teaches:

"storing a pointer in the record identifier datafield for use as the record identifier"  
(referencing Fish, [0101] for storing a pointer to an identifier).

Applicant replies that Claim 7 depends directly from Claim 1. Applicant respectfully submits that as Claim 1 is allowable as per Applicant's arguments above, that Claim 7 is therefore allowable.

Examiner rejects Claim 8 based on arguments given above for rejected claim 1 and is similarly rejected including the following:

Examiner holds that Fish teaches:

20 "each UDF associated with a same record stored in the table, whereby the plurality of first datafields of the plurality of UDF's are associated with the same record and information is stored in the plurality of datafields and the information of the plurality of datafields may be associated with the same record and without modification of the table" (referencing Fish, [0097],

[0102]- [0103] and Fig. 13 a-b for the association between many user-defined fields (identifier/value pairs) with a matter number (matter record)).

Applicant replies that Claim 8 depends directly from Claim 1. Applicant respectfully submits that as Claim 1 is allowable as per Applicant's arguments above, that Claim 8 is  
5 therefore allowable.

Examiner rejects Claim 9 based on arguments given above for rejected claim 1 and is similarly rejected including the following:

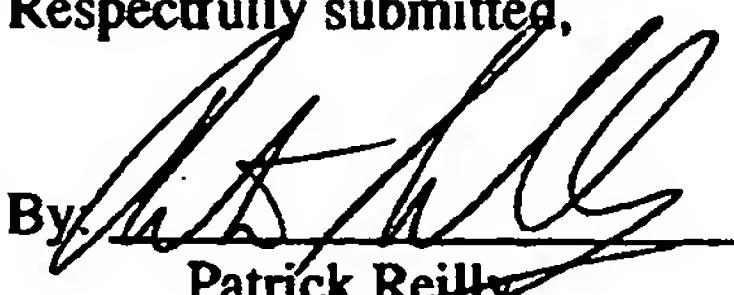
Examiner holds that Fish teaches:  
"forming a data structure having a record, a List and a list user-defined field or "List  
10 UDF", the List UDF relatable to the record, and the List UDF comprising: an identifier of the List UDF; an identifier of the List, and a data address, of the list, whereby an information stored at the data address of the List is associated with the List UDF and the information may be stored or modified at the data address of the List, and the information is associated with the record and without modification of the table" (referencing Fish, [0085], [0087] for a list of addresses  
15 associated with a contact record; see [0052] for a list of milestone identifiers associated with a matter record; also see [0101] for storing pointer to an identifier (e.g., list) wherein pointer is interpreted as data address of the list).

Applicant replies that Claim 6 depends directly from Claim 1. Applicant respectfully submits that as Claim 1 is allowable as per Applicant's arguments above, that Claim  
20 9 is therefore allowable.

### ***Claim Rejections – 35 USC § 112***

Applicant respectfully submits that all of Examiner's rejections have been traversed and that Claims 1 through 9 as currently amended are allowable.

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If any matters can be resolved by telephone, Applicant requests that the Patent and  
Trademark Office call the Applicant at the telephone number listed below.

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